

FIELD RETROFIT INSTRUCTIONS  
FOR THE MARINER '76 FOR REMOTE CONTROL

General Description

The field retrofit kit adds eleven wire, two P.C. boards (A5 and A6), one fuseholder, two diodes and three plug-in cables to the Mariner '76 Transceiver for operation with the Mariner '76 Remote Control unit.

Check the contents of the kit with the enclosed list of materials (LM ) for any omissions. Follow the instructions in order for ease of installation.

Instructions

1. Remove the cover of the transceiver. Save the screws. The old cover is no longer needed. It is replaced by the new cover included in the kit.
2. On very early versions of the transceiver, holes were not provided for mounting the A5 and A6 boards. Drawing No. shows the location and size of these holes, if needed.
3. Remove the hex spacer and 4-40 x 1/2" screw from the corner of the A1 board and replace it with a 4-40 x 3/16" screw from the board side.
4. Unplug the two ribbon cable jumpers between the A1 and A4 boards.
5. Mount the A5 board with two 4-40 x 3/16" screws perpendicular to the chassis. The control connector should protrude from the back of the transceiver.
6. Mount the A6 board with four snap-in standoffs. Be sure the board is correctly oriented.





7. Install the fuseholder on the back panel to complete the mechanical assembly phase.
8. Unplug the black and white wires from the HI/LO pin on the A2 board. Fold back and insulate with the 1/4" shrink tube or tape.
9. Cut the jumper shown on the A2 board.
10. Bend the adjacent terminals between the two fuseholders together as shown and solder them together.
11. There are 11 wires in the kit. Five of these are larger #18 AWG and the other six smaller, #24 AWG. The wiring diagram shows these wires installed as well as all existing wires. The wires to be installed are identified by reference numbers and, where required, each has sockets crimped to the ends. Soldering is required only at the ON/OFF switch and at the fuseholders. Install and route the wires as shown.
12. Unplug the center wire from the select light. Solder a 1N4002 diode in series with this wire. Note the polarity.
13. Check that a diode has been added on the bottom of the A4 board as shown on the wiring diagram. If not, to cut the trace and add the diode (1N4002), it will be necessary to remove the front panel and bezel (refer to "Mariner '76 Mounting and Front Panel Reversal").
14. Install the three ribbon cables making sure Pin 1 of the cable connectors matches Pin 1 of the sockets. Bend the cables as shown in the wiring diagram. Cable A has three plugs on it. Cables B and C have two plugs each. Route cables away from the A1 board to prevent circuit detuning.
15. Install the 2 amp fuse.





### Checkout and Adjustments

The Mariner '76 Transceiver is now ready to checkout. Apply power and attach a dummy load to the antenna. Do NOT connect the remote control cable yet. Try out the transceiver per the Mariner '76 Owner's Manual. All controls should function as before conversion.

Adjust R5 on the A6 board for 0.7 to 1.0 watts output in low power.

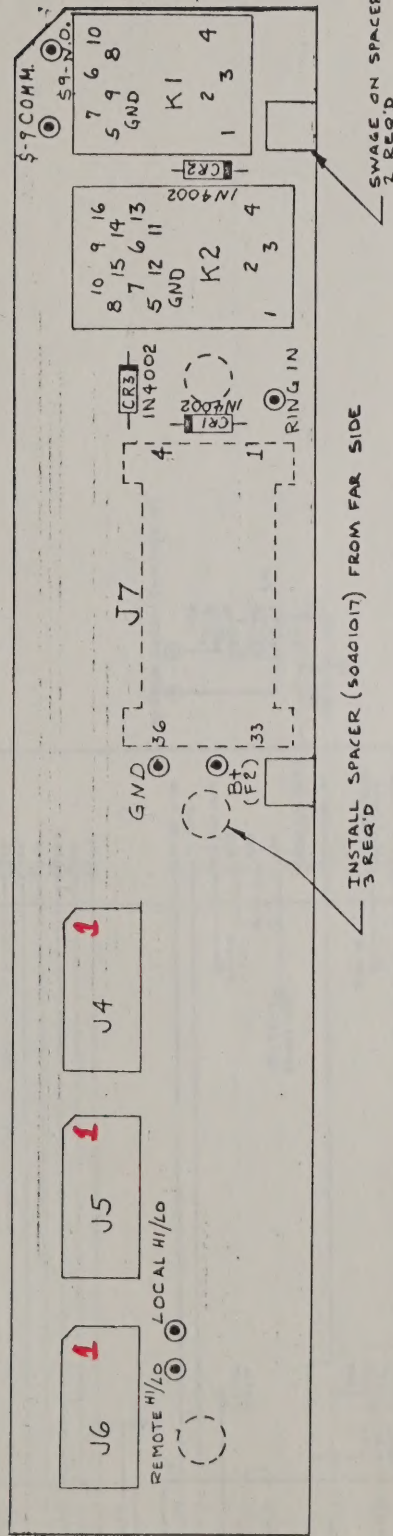
Install the new cover, with the cable socket cut-out, using two 6-32 x 1/4" screws and two 4-40 x 3/8" screws.

Refer to the remote control Owner's and Installation Manual for system installation and checkout.



REVISIONS

SYM	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
B	5/14/76	UPDATED	DRS		W/HP



NOTE: (U.O.S.)  
J7 IS INSTALLED FROM FAR SIDE.

		INTECH INCORPORATED SANTA CLARA CALIFORNIA, 95050	
DRAWN Dave Pells 4/15/76 CHECKED RDR 4/14/76 ENG. 4/16/76	TITLE 76-R, AS REMOTE INTERFACE BOARD	SIZE C 33967	PART NO. 3-157004
SHEET 1 OF 1		B	



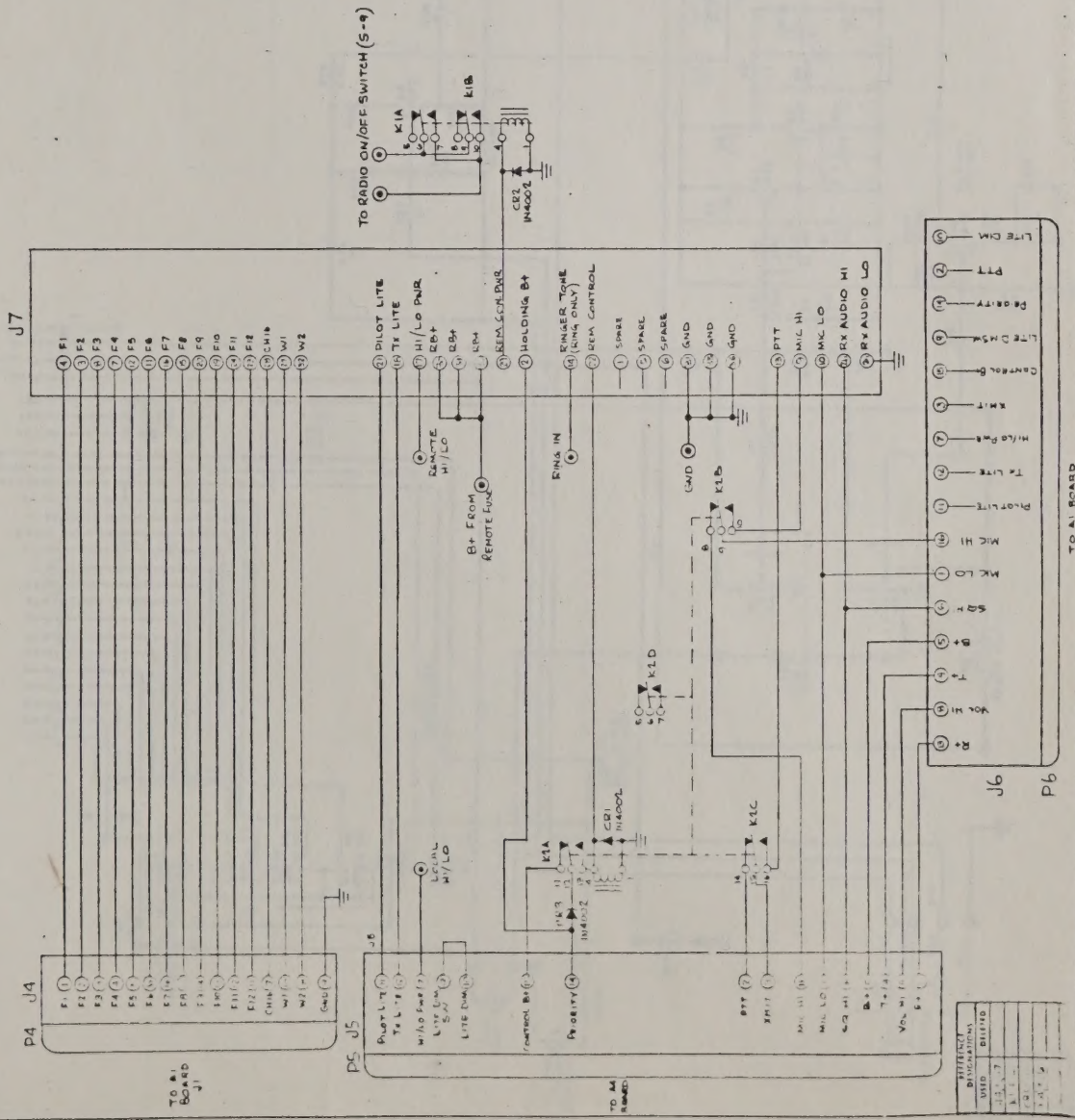




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REVISIONS

REV	DATE	DESCRIPTION	BY	CHKD
1	12/1/54	REVISED	WJ	WJ
2	1/15/55	UP DATED	WJ	WJ



DIFFERENCE	BY	DATE
1	WJ	12/1/54
2	WJ	1/15/55

INCON		74-R 46	
33967		1-15-7004	
SCALE		SHEET 1 OF 1	





REV	DATE	DESCRIPTION	BY	CHKD	APPROV
1	4/27/74	REVISED PLY ECO #4948	U.S.		
2	4/27/74	UP-DATED	U.S.		

31	AND (a)
32	END (b)
33	END (b)
34	SPARE
35	SPARE
36	SPARE

37	MIC HI
38	MIC LO
39	PTT
40	RING TONE
41	REM. PWR. CONT.

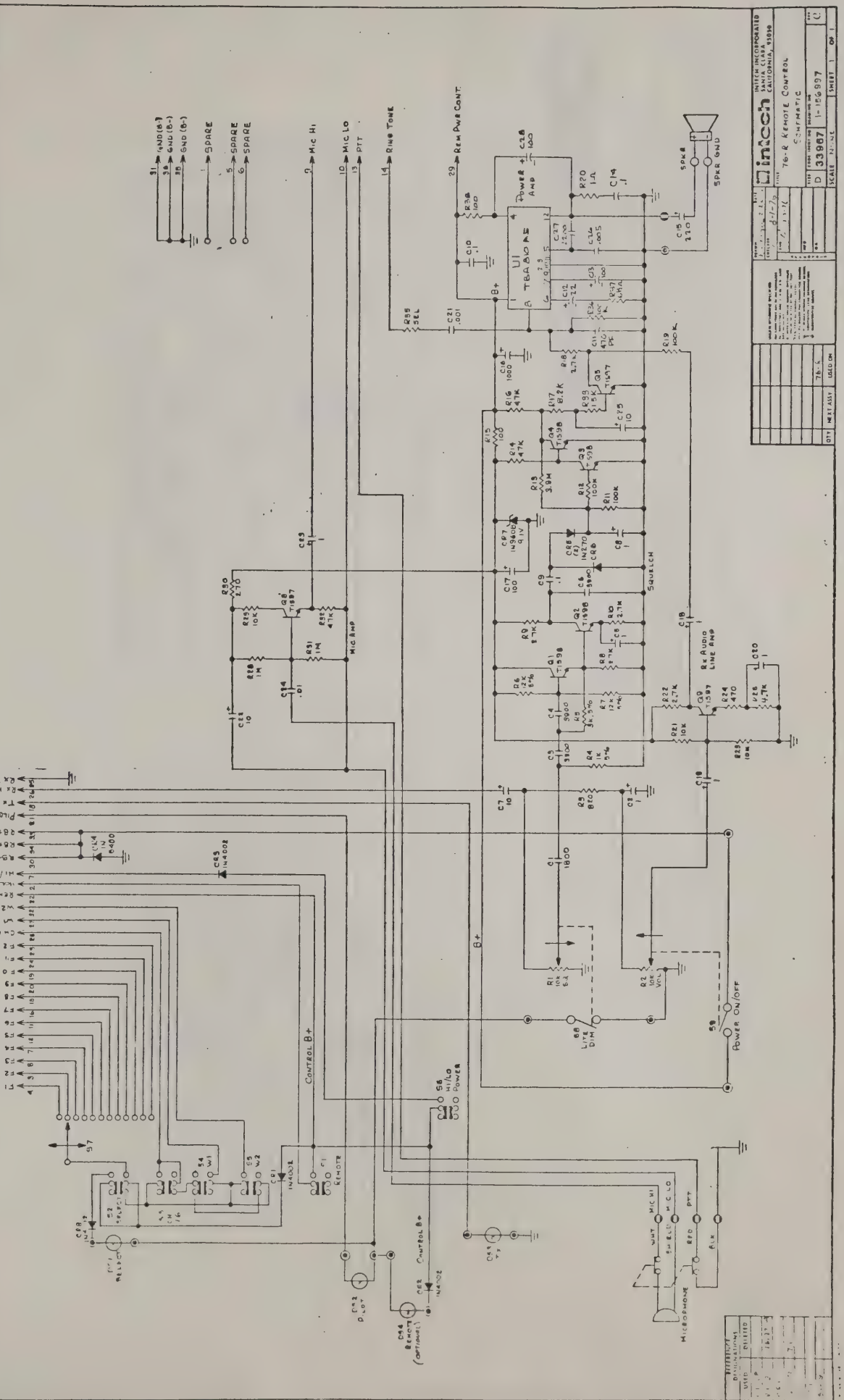
42	SPK
43	SPK
44	SPK
45	SPK
46	SPK
47	SPK

48	SPK
49	SPK
50	SPK
51	SPK
52	SPK
53	SPK

54	SPK
55	SPK
56	SPK
57	SPK
58	SPK
59	SPK

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62	SPK
63	SPK
64	SPK
65	SPK

66	SPK
67	SPK
68	SPK
69	SPK
70	SPK
71	SPK



DINTECH	
76-8 REMOTE CONTROL	
D 33967	
U	

DATE	BY	CHKD	APPROV
4/27/74	U.S.		
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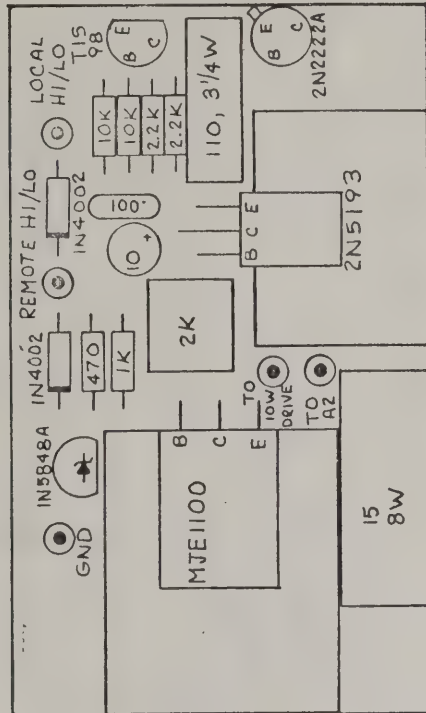
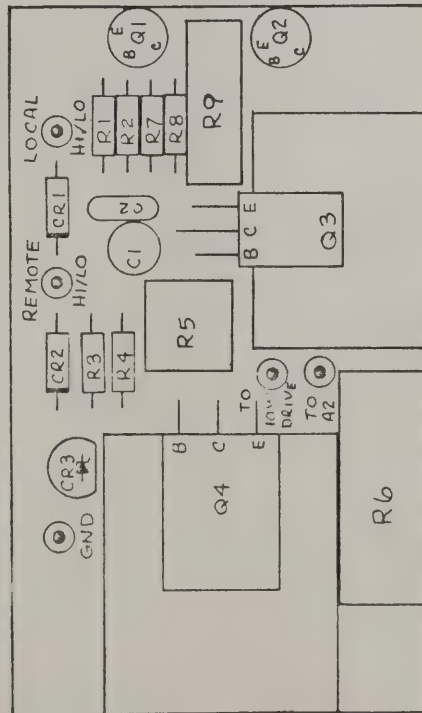




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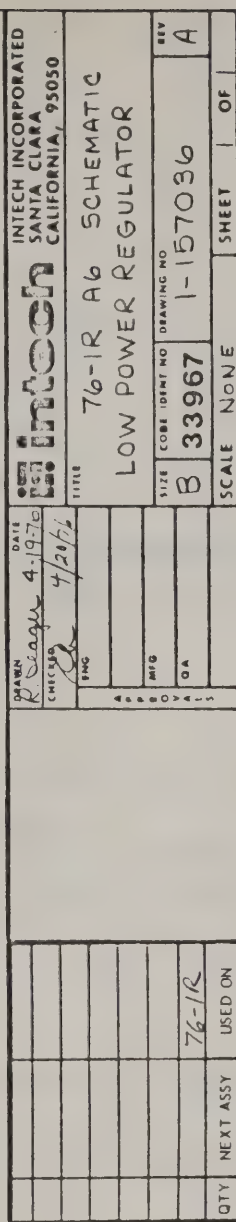
DRAWN		DATE	INTECH INCORPORATED SANTA CLARA CALIFORNIA, 95050	
CHECKED		5-4-76	TITLE	
76-IR		5-4-76	76-IR A6	
76-IR		5-4-76	ASSEMBLY DRAWING	
SIZE		CODE	IDENT NO	DRAWING NO
B		33967	3-157036	A
SCALE		SHEET 1 OF 1		

UNLESS OTHERWISE SPECIFIED:  
ALL DIMENSIONS ARE IN INCHES  
ALL RESISTORS ARE 1/4W, 5%, AND  
VALUES ARE IN OHMS  
CAPACITORS ARE IN P.F.  
TYPICAL SIGNAL LEVEL  
PC BOARD MOUNTED  
COMPONENT LEAD TERMINATION  
SCREWDRIERS ADJUST





SYM	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
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Walt Kallen  
(408) 244-0500

RETROFIT  
FIELD ~~INSTALLATION~~ INSTRUCTIONS  
~~FOR THE~~ OF ~~THE~~ ~~THE~~  
MARINER 76 FOR REMOTE CONTROL

## GENERAL DESCRIPTION

THE FIELD RETROFIT KIT IS DESIGNED TO ALLOW THE ~~THE~~ ATTACHMENT OF THE MARINER REMOTE CONTROL WITH THE MARINER 76 TRANSCEIVER. THE KIT ~~CONTAINS~~ CONTAINS AN ~~II~~ INTERFACE BOARD (A5) ~~AND~~, A TRANSMIT REGULATOR BOARD (A6), AND ALL ~~REQUIRED~~ REQUIRED WIRES AND HARDWARE.

BEFORE PROCEEDING, CHECK THE CONTENTS OF THE KIT WITH THE ENCLOSED LIST OF MATERIALS (LM ~~IS THERE FOR~~) FOR ANY OMISSIONS. FOLLOW THE INSTRUCTIONS IN ~~THE~~ ORDER.

## INSTRUCTIONS - ~~REPAIR~~

1. OPEN THE MARINER 76 TRANSCEIVER. SAVE THE SCREWS
2. ~~BE~~ COMPARE THE CHASSIS WITH THE <sup>LARGE</sup> ~~THE~~ ENCLOSED WIRING DIAGRAM (5-157007). THE CHASSIS MUST HAVE THE MOUNTING HOLES FOR THE A5 AND A6 BOARDS. (SOME EARLY ~~BOARDS~~ CHASSIS DO NOT HAVE THESE HOLES. CONSULT THE FACTORY FOR DRILLING INSTRUCTIONS.)
3. ~~MOUNT THE A5 BOARD (757007) WITH TWO 3/16 4-40 SCREWS~~  
AND 1/2 3/4-40 SCREW
- ✓ 3. REMOVE THE HEX SPACER FROM THE CORNER OF THE A1 BOARD AND REPLACE WITH 3/16 4-40 SCREW.
- ✓ 4. REMOVE THE TWO <sup>RIBBON</sup> ~~THE~~ CABLE JUMPERS BETWEEN THE A1 AND A4 BOARDS.
- ✓ 5. MOUNT THE A5 BOARD WITH TWO 3/16 4-40 SCREWS AS SHOWN. THE CONTROL CONNECTOR SHOULD PROTRUDE FROM THE BACK OF THE TRANSCEIVER
- ✓ 6. MOUNT THE <sup>A6 Board</sup> ~~A~~ WITH FOUR SNAP-IN STANDOFFS. BE SURE <sup>THE</sup> ~~A~~ BOARD IS CORRECTLY ORIENTED.
- ✓ 7. INSTALL THE FUSE HOLDER ON THE BACK PANEL. THIS COMPLETES THE MECHANICAL ASSEMBLY PHASE.

8.

~~8.~~



216 { THERE ARE 11 WIRES IN THE KIT. THE HEAVY WIRES ARE IDENTIFIED AS #18 AWG. ALL OTHERS ARE THE SMALLER #24 AWG. THE WIRING DIAGRAM (5-157007) SHOWS THE LOCATION ~~ROUTING~~ OF THESE WIRES. ~~FOR~~ ALL EXISTING WIRES ARE ALSO SHOWN. ADDED WIRES ARE IDENTIFIED BY ~~REF~~ <sup>REFER</sup> ~~NUM~~ <sup>NUM</sup> PLUG IN THE WIRES ~~AS SHOWN~~ AND ROUTE AS SHOWN. SOLDERING WILL BE REQUIRED AT THE ON-OFF SWITCH AND AT THE ~~THE~~ FUSE HOLDERS.

✓ 8. PLUNGE THE BLACK AND <sup>THE</sup> WHITE WIRES FROM THE HI-LO PIN ON THE A2 BOARD. FOLD BACK AND <sup>INSULATE</sup> ~~COVER~~ WITH THE 1/4" SHRINK TUBE. SHRINK WITH A HEATGUN OR GAS CIGARETTE LIGHTER. CUT THE <sup>JUMPER</sup> ~~WIRE~~ ON THE A2 BOARD

✓ 9. BEND THE <sup>ADJACENT</sup> ~~WIRE~~ <sup>TERMINALS</sup> ~~ON~~ BETWEEN THE TWO FUSE HOLDERS TOGETHER AS SHOWN.

✓ 11. UNPLUG THE CENTRE WIRE FROM THE SELECT LIFE. ~~AND ADD A DIODE~~ ~~A DIODE~~ (IN4002). SOLDER A IN4002 DIODE IN SERIES WITH THIS WIRE.

✓ 12. ~~CUT~~ CUT A TRACE AND ADD A DIODE (IN4002) ON THE BOTTOM OF THE A4 BOARD AS SHOWN ON THE WIRING DIAGRAM. FIRST CHECK IF THE DIODE HAS BEEN FACTORY INSTALLED. IF NOT, ~~FOR~~ IT WILL BE NECESSARY TO REMOVE THE FRONT PANEL AND BEZEL TO PERFORM THIS CHANGE. REFER TO ~~FOR THE REMOVAL~~ ~~INSTRUCTIONS~~ INSTRUCTIONS.

✓ 13. INSTALL THE THREE RIBBON CABLES, ~~AS SHOWN~~ BEND THE ~~CABLE~~ CABLES AS SHOWN IN THE WIRING DIAGRAM. CABLE [A] HAS THREE PLUGS ON IT. CABLES [B] AND [C] HAVE TWO PLUGS EACH. MAKE SURE PIN 1 OF THE CABLE CONNECTORS MATCHES PIN 1 OF THE SOCKETS. ROUTE CABLES AWAY FROM ~~THE~~ THE A1 BOARD TO PREVENT CIRCUIT DETUNING.

✓ 14. INSTALL THE 2AMP FUSE





## ADJUST

### CHECKOUT AND ADJUSTMENTS

THE MARINER 76 TRANSCEIVER IS NOW READY TO CHECK-OUT. <sup>APPLY</sup> ~~ATTACH~~ POWER AND <sup>ATTACH A</sup> DUMMY LOAD TO THE ANTENNA, ~~THE~~ DO NOT CONNECT THE REMOTE CONTROL CABLE YET. TRY OUT THE ~~TRANSCEIVER~~ TRANSCEIVER PER THE MARINER 76 OWNER MANUAL. ALL CONTROLS ~~THE~~ FUNCTION ~~THE~~ AS ~~THE~~ ~~BEFORE~~ BEFORE CONVERSION.

ADJUST ~~THE~~  $R_5$  ON THE AL BOARD FOR .7 TO 1.0 WATTS OUTPUT IN LOW POWER. IF NO WATTMETER IS AVAILABLE, ~~SEE~~ ADJUST  $R_5$  ~~THE~~ FOR — AMPS CURRENT AT 13.6 VOLTS INPUT.

THE ORIGINAL

INSTALL THE COVER WITH TWO  $\frac{1}{4}$  6-32 SCREWS AND TWO  $\frac{3}{8}$  4-40 SCREWS.

INSTALL THE REMOTE CABLE AND REMOTE CONTROL. REFER TO THE ~~TRANSCEIVER~~ REMOTE CONTROL OWNERS AND INSTALLATION MANUAL FOR SYSTEM INSTALLATION AND CHECKOUT.





# LIST OF MATERIALS

**UNIT**  
 76-1R  
 Harness Sub-Assy

**DWG No.**  
 LM 157074

**PAGE**  
 1 OF 1

**REV**  
 A

ITEM	PART	No.	QTY	DESCRIPTION	REF.	DESIG.	REMARKS/MANUFACTURER/SUBSTITUTE	CHG.
5	1400	0003	2	Dip Cable Assy	J5,6			
6	1400	0004	1	" "	J4			
7	1431	0019	16	Pin Sockets				
8	1440	0053	3	Dip Locks				
					# Terminals	From - To		
10	3600	0126	1	Red #18 GA	3"	1	2A Fuse - A5 B+	
11	3600	0126	1	" "	6"	1	A6 B+ - On/Off Switch	
12	3600	0126	1	" "	9"	1	A6 K1 - 6A Fuse	
13	3600	0126	1	" "	16"	1	A6 K1 - On/Off Switch	
14	3600	0131	1	Vio #18 GA	10"	2	A6 REM HI/LO - A2 HI/LO REM	
15	3600	0401	1	Red #24 GA	2"	2	A2 B+ - A2 HI/LO	
16	3600	0404	1	Grn "	15"	2	A5 - A6	
17	3600	0405	1	Blue "	4"	2	A4 REM Lite - A1 R+	
18	3600	0408	1	Wht "	15"	2	A5 - A6	
19	3600	0409	1	Blk "	2"	1	Gnd Lug at Fuse - A5 Gnd	
20	3600	0409	1	Blk #24 GA	2"	1	A6 Gnd - A3 Gnd Lug	

DRAWN 6-23-76

APPROVED ENG 7/1/76

REV LTR

CHKD R. S. Sager

MFG

DATE

6-23-76

QA

ECO No. OR DESCR



